Abstract

Simulation method and test arrangement for determining nonlinear signal distortion

Simulation method for determining nonlinear signal distortion in an analog circuit (7), which is to be tested, for processing discrete multitone signals, with the simulation method having the following steps:
(a) application of a discrete multitone signal, which has a large number of uniformly spaced carrier frequencies for data transmission in a predetermined frequency range, to the analog circuit (7), which is to be tested, and to an adjustable modeling filter (18);
(b) subtraction of the output signal from the analog circuit (7), which is to be tested, from the output signal from the modeling filter (18) in order to produce a difference signal,
(c) adjustment of the modeling filter (18) until the difference signal is a minimum, in order to generate an equivalent test circuit of the analog circuit (7);
(d) reapplication of the discrete multitone signal, with at least one carrier frequency being suppressed, for measuring the intermodulation product (D) of the adjusted digital modeling filter (18).

Figure 4